ADDENDUM NO. 2

B	Questions	JPL Response
	General	
1	The three signal (clock/data/enable) high speed LVDS serial interface described in Exhibit 1 section 6.5.1, page 23, is problematic at speeds above 5-10 Mbps. Traditionally the clock and enable are generated by the satellite bus while the data is generated by the payload. Alternately, the enable can be generated by the satellite bus and the clock and data generated by the payload. Either way, there is a skew that occurs between the enable, data, and clock signals. This skew is caused by both the two way signal transmission time and the inherent delays in the line drivers and receivers. Temperature dependencies can shift the skew and cause data ambiguities. There are other high-speed serial data transmission approaches that use either more parallelism, packetization, or handshaking to produce a more reliable data link at these high rates. Would it be acceptable to propose a trade study of alternate high-speed data interfaces as part of our phase A effort?	Yes - it is acceptable for contractors to propose studies as part of the Phase A effort.
2	Does the 48 Gbits of volatile mass memory referred to in Exhibit I, paragraph 6.11, page 24, include all of the storage required for payload data between downlink passes, or is payload downlink data storage in addition to this.	The former answer is correct - the 48 Gbits of volatile mass memory includes all the storage necessary for payload data between downlink passes.

B	Questions	JPL Response
3	Are there any response latency requirements associated with the 20 MIPS of processing capability requested in Exhibit I, paragraph 6.9, page 23? Can this processing be handled by the normal spacecraft software scheduling process?	Answer to 1st question - none are identified. Answer to 2nd question - It depends on how the capability is implemented (which is determined by the contractor).
4	Exhibit I, paragraph 5.9.2, p17 states, "The SDST provides the capability to select either convolutional coding (k=7 r=1/2) or no coding." Yet the SDST Specification states in paragraph 3.5.8.1.1, "convolutional encoding 7-1/2, 15-1/6 " with comments "15-1/4, 15-1/2. and bypass available but not used." Please clarify which data rates are available and which may be used.	Exhibit I is correct. The SDST specification describes SDST capabilities but is not MRO specific. The Deep Space Network has stated that the 15-1/6 convolutional code will not be supported for MRO and subsequent missions.
5	Reference Exhibit I, paragraph 5.9.7, page 17. The SDST does not provide turbo-coding. Please provide a reference for the code generators required for DSN compatibility.	In the RFP (Exhibit II), both 810-05 and the CCSDS standards provide information on Turbo Codes which are compatible with proposed DSN capabilities.
6	Reference Exhibit I, paragraph 5.9.7, page 17. Some subparagraphs refer to coding schemes while others do not. Can it be assumed that where the text is mute on coding rates the coding scheme is the bidders choice?	Yes.
7	Paragraph 3.1.2.4 states " Type font shall be no smaller than 10 point character height." Frequently in proposals this applies only to the text in the body and a smaller font, e.g., 8 point, is allowed for graphics and tables. Is the 10 point font limitation for text only or all text, graphics, and figures?	The 10 point font is for text only - 8 point font is acceptable for graphics and tables.

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8	Paragraph 3.1.1 provides a page limitation of 120 pages for the Volume I Technical/Management. Paragraph 3.1.2.5 defines a page as a 'piece of paper containing substantive evaluatable information.' Are title page, table of contents, proposal-RFP cross reference matrix, section tabs, acronym lists, and glossaries to be considered outside the 120 page limitation since they are not specific items called for in the proposal instructions/evaluation criteria and, therefore, could be considered not to be "substantive evaluatable information"?	All pages, except for schedules, are counted. In addition, proposers should sequentially number the Technical/Management proposal pages from 1 to 120.
9	Exhibit 1, Paragraph 3.3 Single Point Failures indicates that "orbiter shall not contain single point failures except for those allowed by the exemption in the MRO Project Policies document." The Policies Document does not include exemptions for bearings, waveguide switches, and induction devices that have been exempted on past programs. Should these items be added to the exemption list or should we assume they be treated as single point failures requiring redundancy or a waiver request?	The latter. MRO's current position on allowable single point failures is as stated in Exhibit I. Any exceptions to this will require a waiver request during the development contract.

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10	Paragraph 3.4 of the MRO Policies Document, Single Point Failure states that “no single failure in a project system shall result in the failure to achieve primary mission success. Typically on past missions, primary mission success is defined as something less then achieving the full set of mission requirements. Is the definition of primary mission success for MRO the full set of primary science and telecom requirements specified in Exhibit I or something less? Please, define.	For purposes of your proposal, assume that the definition of primary mission success includes meeting the full set of primary science and telecom requirements as specified in Exhibit I.
11	Exhibit 1, Paragraph indicates that “the orbiter shall provide a minimum of 20MIPS processing capability for payload data processing”. Do we assume the 20MIPS already includes the appropriate processing margins similar to the payload mass and power allocations provided elsewhere in the Exhibit?	Yes - the 20 MIPS capability does include processing margin.
12	The document labeled GFP_TWTA_Capabilities.pdf lists the TWTA as having a Maximum Power draw of 182 watts. Is this a CBE or does it already include appropriate margins similar to the 200W specified for the payloads?	This is a CBE.
13	The Mars trajectories included in the reference Mission and Trajectory Document are based on the MarsGram 3.7 model. An updated version of that model, MarsGram 2000, is available that projects a more pessimistic Mars environment. What is the appropriate model for the contractor to use in its mission analyses?	The appropriate model for use is MarsGram 2000.

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14	In Section 6.17.5 Primary Science Phase it states "While nominally nadir pointing, the imaging instruments will require cross-track pointing as specified in 6.15.1" Shouldn't the reference be '6.16.1' instead of '6.15.1'?	Yes - paragraph 6.17.5 should reference 6.16.1 instead of 6.15.1.
15	The MRO Management and Polices Document requires mass margin to be calculated using the payload CBE. However, Exhibit I only identifies 140 which includes all reserves. Please, provide the corresponding payload mass CBE to enable a total mass margin calculation per the RFP instructions.	Payload mass CBEs are identified in the PIP (Exhibit II reference document), except for the engineering payloads, which CBEs are identified in Exhibit I.
16	The RFP Cover Letter indicates JPL anticipates executing a letter contract on 9/10/01 but the Volume 4 Instructions say to assume Phase A/B starts on 8/31/01. Which is the correct date to assume for both ATP and Phase A/B start?	For proposal and costing purposes, assume 8-31-01.
17	Is there an order of precedence in RFP documents? For instance, the sample contract asks for the SR/CR to be held three months ADOC, which would be 12/01/01 when using the Phase A/B cost instruction start date of 08/31/01. The MRO Review Plan ascribes a date of 11/01/01 to the SR/CR. As a general rule, should we follow RFP and Sample Contract dates or use those in the supporting plans?	The specimen contract takes precedence over the supporting plans.